



USSOCOM SBIR Successful Technology Pursuit



Innovative Technology

Topic Number | SOCOM05-011

Topic Title | Miniature Unmanned Aerial Vehicle (MUAV)

Aircraft often must fly at low altitudes to collect tactical surveillance and feedback information. However, flying at low altitudes results in higher risks for the aircraft and aircrew. In addition, military missions operate within restricted environments, such as mountainous terrain, caves, heavily forested areas, urban environments, and areas with a high concentration of civilians, which serve to increase the risk. The Department of Defense (DoD) has a need to provide high-resolution video imagery to the sensor operators of current and future gunships, other unmanned aircraft systems, and similar platforms, while supporting missions above an area of interest. Air-launched Unmanned Aerial Vehicle (ALUAV) technologies can assist in protecting against these risks and providing visual imagery beyond the visual range of the main platform. In meeting this need, Lite Machines leveraged its previously developed Voyeur Unmanned Aircraft System (UAS) to design a low-cost system that does not inhibit the operation of the host aircraft in any way, and requires as little operator interaction as possible. The Tiger Moth system is compatible for use by unskilled ground troops, and weighing about 3 pounds, can easily be carried by a single soldier. The system can also be configured with explosives to become a tactical smart-weapon, with a range of up to 20 miles. The system's small size and nearly silent operation make it very difficult to detect and destroy.

Company and Contact Information

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Military and Commercial Significance

Lite Machines has received over \$1.5 million in Small Business Innovation Research (SBIR) Phase II funding from DoD for development of its UAV technology.

In 2010, Lite Machines received Phase III funding of approximately \$1.3 million from the Air Force for an air launched-off board sensing small UAV.

The Tiger Moth system was designed to be manufactured in high quantities, and could be deployed in a swarm to soften the battlefield in advance of ground troops and can be ground or air launched in large numbers.

Commercial applications include supporting police officers in the field, allowing fire fighters to test for chemical dangers, looking for hot spots in a forest fire, searching for victims of natural disasters, and analyzing farm fields for crop issues.

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